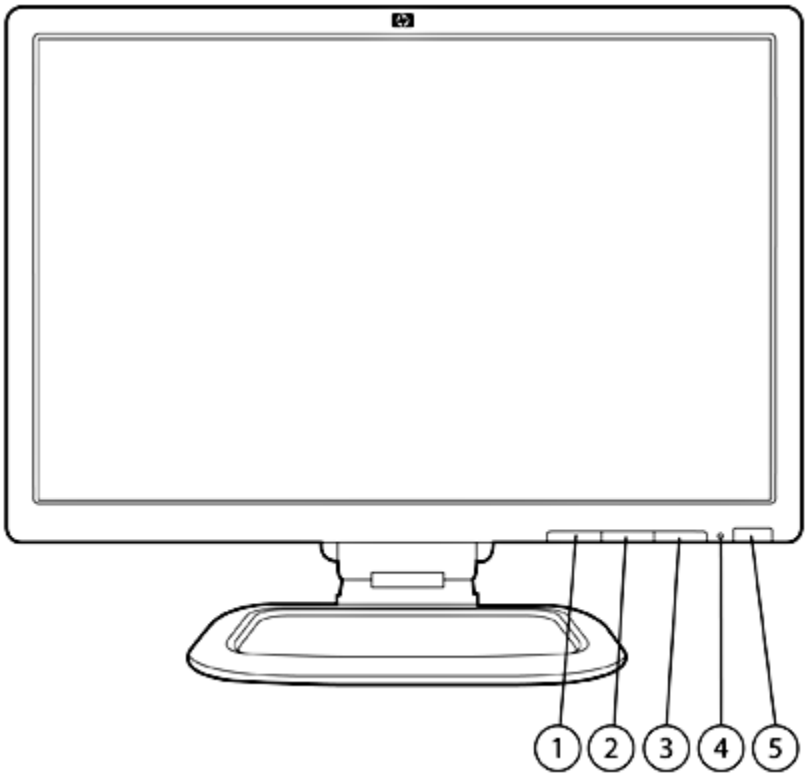
Overview



1. Menu / Select
2. "-"/Auto
3. "+"
4. Power LED
5. Power

Model

KH128AA

Technical Specifications

Panel	**Type**	19-inch diagonal Wide-Aspect Active Matrix TFT (thin film transistor)
	Viewable Image Area	19 in (48.25 cm) widescreen; diagonally measured
	Screen Opening (WxH)	16.1 x 10.1 in (40.98 x 25.67 cm)
	Viewing Angle (typical)	Up to 160° horizontal/160° vertical (10:1 minimum contrast ratio)
	Brightness (typical)*	300 nits (cd/m^2)
	Contrast Ratio (typical)*	1000:1
	Response Time (typical)*	5 ms (on/off)
	Pixel Pitch	0.282 mm
	Backlight Lamp Life (to half brightness)	30K hours
	* All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.	
On Screen Display (OSD) **Controls**	**Buttons or Switches**	Input select/OSD UP, auto adjust/OSD down, OSD menu select, power
	Languages	English, French, German, Spanish, Italian, Dutch, Japanese, S. Chinese, and Portuguese
	User Controls	Brightness, contrast, positioning, color temperature (6500k, 9300k, custom), serial number, display, clock, clock phase, monitor management, factory reset
Signal Interface/ Performance	**Horizontal Frequency**	24 to 83 kHz
	Vertical Frequency	50 to 76 Hz
	Native Resolution	1440 x 900 @ 60 Hz (WXGA+)
	Preset VESA Graphic Modes (non-interlaced)	1280 x 1024 @ 60 Hz and 75 Hz 1280 x 960 @ 60 Hz 1152 x 720 @ 60 Hz 1024 x 768 @ 60 Hz and 75 Hz 800 x 600 @ 60 Hz and 75 Hz 640 x 480 @ 60 Hz, and 75 Hz
	Text Mode	720 x 400 @ 70 Hz
	Mac Mode	1152 x 870 @ 75 Hz and 832 x 624 @ 75 Hz
	Sun Mode	1152 x 900 @ 66 Hz
	Maximum Pixel Clock Speed	140 MHz
	User Programmable Modes	Yes, 15
	Anti-Glare	Yes
	Anti-Static	Yes
	Default Color Temperature	6500 K
Video/Other Inputs	**Plug and Play**	Yes
	Self Powered USB 2.0 Hub	One upstream, two downstream ports (cable included)
	Input Signal	VGA
	Input Impedance	75 ohms ± 10%
	Sync Input	TTL separate synch
	VGA Cable	15 pin D-sub VGA
	VGA Cable Length	5.9 ft (1.8 m)
Power	**Input Power**	Auto-Sensing, 100 to 240 VAC, 50 +/-3 Hz to 60 +/-3 Hz)

Technical Specifications

	Frequency	47.5 to 63 Hz		
	Typical Power Consumption	45 watts (without speaker/with 50% USB)		
	Maximum	< 65 watts		
	Power Saving	< 2 watts standby; <1 watt off		
	Power Cable Length	6.2 ft (1.9 m)		
Mechanical	**Dimensions** (H x W x D)	**Unpacked w/stand**	12.85 to 17.97 x 17.56 x 11.86 in (32.65 to 45.65 x 44.6 x 30.12 cm)	
		Unpacked w/o stand (head only)	11.9 x 17.6 x 2.3 in (30.1 x 44.6 x 5.9 cm)	
		Packaged	15 x 22.13 x 9.25 in (38.1 x 56.2 x 23.5 cm)	
	Weight	**Head Only**	9.26 lbs (4.2 kg)	
		Unpacked	15.1 lbs (6.85 kg)	
		Packaged	18.74 lbs (8.5 kg)	
	Tilt Range	-5° to + 35° vertical		
	Swivel Range	-45° to + 45°		
	Height Adjustable	Yes, range 5.12 in (13.0 cm)		
	Pivot Rotation	Yes		
	Base	Attachable, ships attached		
Environmental Data	**Temperature – Operating**	41° to 95° F (5° to 35° C)		
	Temperature – Non-operating	-29° to 140° F (**–**20° to 60° C)		
	Humidity – Operating	20% to 80% non-condensing		
	Humidity – Non-operating	5% to 95%, 38.7° C max wet-bulb		
	Altitude – Operating	+12,000 ft (3,658 m)		
	Altitude – Non-operating	+40,000 ft (12,192 m)		
	Eco-Label Certifications and Declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • ENERGY STAR® • US Federal Energy Management Program (FEMP) • IT ECO declaration • TCO 03 • Taiwan Green Mark • CECP • EU Flower (2001/686/EC & 2001/687/EC) • GEEA		
	Energy Consumption (in accordance with ENERGY STAR® test method)	AC Input Voltage at 100 VAC +/- 5 VAC, 50 Hz +/- 3 Hz	AC Input Voltage at 115 VAC +/- 5 VAC, 60 Hz +/- 3 Hz	AC Input Voltage at 230 VAC +/- 5 VAC, 50 Hz +/- 3 Hz
	Normal Operation	43 watts	43 watts	43 watts
	Sleep	2 watts	2 watts	2 watts
	Off	1 watts	1 watts	1 watts

Technical Specifications

Heat Dissipation*	AC Input Voltage at 100 VAC +/- 5 VAC, 50 Hz +/- 3 Hz	AC Input Voltage at 115 VAC +/- 5 VAC, 60 Hz +/- 3 Hz	AC Input Voltage at 230 VAC +/- 5 VAC, 50 Hz +/- 3Hz
Normal Operation	146.6 BTU/hr	146.6 BTU/hr	146.6 BTU/hr
Sleep	6.82 BTU/hr	6.82 BTU/hr	6.82 BTU/hr
Off	3.41 BTU/hr	3.41 BTU/hr	3.41 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Longevity and Upgrading

Upgradeability features contained in the product include:
One upstream and two downstream USB ports

Ergonomics

The monitor meets the ergonomic requirement of EN-ISO 13406-2 for flat panel displays.

Additional Information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) Directive, 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive, 2002/96/EC.

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

Display meets the requirement for low frequency electromagnetic fields per TCO and prEN50279 A/B/C.

This product contains 0% recycled materials (by wt.)

This product is 98.5% recyclable when properly disposed of at end of life.

Packaging Materials:

- Corrugated Carton **–** 1.025 kg
- HDPE Bag **–** 0 kg
- Polystyrene **–** 0.27 kg

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at: www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants **–** may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel **–** finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
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- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

	Packaging	HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: www.hp.com/recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
	Hewlett-Packard Corporate Environmental Information	For more information about HP's commitment to the environment: Global Citizenship Report www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications www.hp.com/hpinfo/globalcitizenship/environmentproductdesign/ecolabels.html ISO 14001 certificates: www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html
Options	**HP Silver LCD Speaker Bar—Part number: EE418AA**	Powered directly by the monitor or the PC, the Speaker Bar seamlessly attaches to the monitor's lower bezel to bring full audio support to select HP LCD monitors. Features include dual speakers with full sound range and external jack for headphones. Sold separately. For more information, refer to the HP Silver LCD Speaker Bar QuickSpec.
	HP LCD Monitor Quick Release—Part number EM870AA*	An easy-to-use, VESA-compliant, LCD monitor mounting solution that allows you to quickly and securely attach a flat panel monitor to a variety of stands, brackets, arms or wall mounts. For more information, refer to this product's QuickSpec document. * The HP Quick Release has been designed to support a maximum of up to 24 lbs (10.9 kg) depending upon the mounting configuration used. Please note this is a total weight limit for all devices mounted, i.e. the combined weight of the monitor and a second device such an HP Compaq Thin Client cannot exceed 24 pounds. Because mounting surfaces vary widely and the final mounting method and configuration may vary, mounting fasteners are not supplied (other than the VESA-compliant screws). HP recommends that you consult with a qualified engineering, architectural or construction professional to determine the appropriate type and quantity of mounting fasteners required for your application and to ensure that your mounting solution is properly

		installed to support applied loads.
	HP Compaq dc 7800 Series Ultra-slim Desktop Integrated Work Center Stand—Part number: GN783AA	Allows mounting of an HP LCD monitor and an HP Compaq dc7800 Ultra-slim Desktop PC on a single stand for the convenience of an "all-in-one" form factor. Sold separately. For more information, refer to this product's QuickSpec document.
	Kensington Security Lock—Part number PC766A	Combines aircraft-grade steel and Kevlar fiber to securely lock down your monitor and help prevent theft.
Other	**Accessories Included**	VGA cable - connects the graphic card's VGA connector to the monitor's VGA input; USB cable, power cable
	Software	HP Display Assistant is a software utility that enables theft deterrence and allows monitor adjustment, color calibration, and security/asset management using the Display Data Channel Command Interface (DDC/CI) protocol of the connected PC. HP Display LiteSaver allows you to schedule Sleep mode at preset times to help protect the monitor against image retention, drastically lower power consumption and energy costs, and extend the lifespan of the monitor. Pivot Pro software from Portrait Displays, Inc. interacts with your PC's native graphics driver to enable seamless portrait screen redraws with a simple mouse-click or keyboard command. Pivot Pro supports 90-degree portrait and landscape views. Language support is available in English, Japanese, French, German, Spanish, Italian, and Traditional and Simplified Chinese.
	User Guide Languages	English, B. Portuguese, French, LA Spanish, Korean, S. Chinese, T. Chinese, Bahasa, Japanese, Danish, Finnish, German, Norwegian, Spanish, Swedish, Greek, Polish, Russian, Slovenian, Turkish
	Warranty Languages	English, Canadian French, LA Spanish, Brazilian Portuguese, Danish, German, Castilian Spanish, French, Italian, Dutch, Norwegian, Finnish, Swedish, Bahasa Indonesian, Korean, T. Chinese, S. Chinese
	Color	All carbonite (with base outer ring painted silver)
	VESA External Mounting	Yes (One sets of Standard 4 hole pattern, 100 mm) Use of the top VESA 4 hole pattern will allow the user to set monitor head lower to the desk surface)
	Kensington Lock-Ready	Yes, one Kensington slot available
Certification and Compliance	TCO'03, ISO 13406-2 VDT Guidelines Approval, CISPR Requirements, VCCI Approvals, MIC (Korean) Requirements, CSA, Australian ACA Approval, "GS" Mark, TUV Approvals, CE Marking, FCC Approval, ENERGY STAR® qualified, PC-2001 Certified, Microsoft® Windows® Certification (Microsoft® Windows® 98, Microsoft Windows 2000, Microsoft Windows XP, and Windows Vista®)	
Compatibility	Compatible with platforms using the VESA standard video modes. Recommended for use with HP products.	
Service and Warranty	Three years parts, labor, and on-site service. 24-hour, 90-day, toll-free technical support. Replacement options may include second business day on-site service, or next business day direct replacement, at HP's sole discretion.* With direct replacement, HP will ship a replacement display product directly to you. Using the prepaid shipping labels provided, return your failed display to HP in the same packaging as the replacement. Certain restrictions and exclusions apply. For details see your product warranty or contact HP Customer Support. * Service levels and response times for HP Care Packs may vary depending on your geographic location. Restrictions and limitations apply. For details, visit: www.hp.com/go/carepack.	

Technical Specifications

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